

Theory of Medical Gymnastics.

Classification of Movements

1. Active } Resistive.
2. Passive }

Concentric - Both end of working muscle brought together ^{shortening}

Eccentric - elongating muscle.

Holdings - Begin. of movement away from
late holding - static.

Sunday & incl. movements

Bought about by impulses extol 3-11

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associated - yellow - Pteris alba

movement causing involuntary at
some time no other movement.
usually invol also.

Ground organs of locomotion
 afford supply of muscle increase
 reveals inherent abilities "

Inner edge - outer edge

Mo. ex. mobility of joint increased esp.

Movements alternate ^{right} leg with ^{left} leg

If one part of body is, then part
 depicting and. 580
 depicting and

chest muscles work harder. Increase
size of chest cavity. Effect on
respiratory organs. Increase on
torso system Brain & Nervous
System

Concussion of knee - tend - swelling
no ex. Case of where all mov. causes
pain acute musc. spasm

Patient starting post. chosen with care
Stearns at size of base of support
taken into consid. with heavy patients
B line of gravity directly in
middle.

(C) Point of support by gymnast
& assistants.

Before giving ex. explain fully
position. Gymnast post. comfortable
Gymn. breathe freely. no down patients
neck. All grasps gently but firmly
ex - steady rhythmically smooth
not pressed down ST reaches to
fullest extent. more work later.

These movements & suit patient - work to
Rate of no. varied greatly. Not same
schemes of ex.

Rules

1. Those mov. which have direct effect
on pathological effects change pos.

2. Must treat whole body.

3. Reaching ex. then & recumb.

Movements for head & neck.

4. affecting abdominal organs.

for chest & back

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5. Link movements. Finish stretching ex -
complete relaxation

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1. for upper & lower limbs. Have strength adapted to patient's strength. Strong at mov. in middle & dwindle off. Any mov. shouldn't follow. Having same effect.

Treatment of scoliosis, etc. passive corrective ex. used - followed aimed. by act. ex.

8-12 mov. to begin with. In treating scoliosis, etc. motorizing - very often begin as balance ex. - feet. Then concentration. Do not feel tired after. Possible rest 15 min. after treat.

After 1. Various mov. Progress from small to big scheme. Work again faintly.

Standing on toes. More complicated starting post. Movement assisted by gym. Then co-ordination later - change rhythm - Arm & then leg - arm & leg 2-gether.

Fundamental post: 1. Standing. Feet 79. Same line, or slightly apart. Shoulders down & back.

2. Kneel standing - P. knees on edge of plinth with toes hanging over. Erect.

3. Sitting - Stool - firmly - on floor flatly toes apart & back 2-gether. Back flat. Hands down.

4. Lying - on pillow

5. Hanging

From these get derived post - same - mus. + few others.

(A) Changing pos. of legs - i.e. knee standing rotating hip joint inwards.

2. Derived from Standing:

3 The standing - lifting heels as high off ground as possible. Most leg muscles - effects & uses:-
Mostly as balance position.

Q. Free bend or courtesy standing.

This arises by lowering trunk & leg & thigh
form it's into each ^{dorsal} flexion at ankle joint with flexion
at hips & knees. Lowering of trunk caused
by gravity while the working m. control
the mov. by eccentric action after which
we maintain the post by static

Working ~~Mr.~~ a. calf n.

3. Extensors of knee.

hyp. (esp. Glute.)

Sketches calf m. (little used)

Toe Courtesy Standing -

Combination of 2 previous post. Working m.

9 effects & use all same.

Position also good for Double-sided
Treatment for scoliosis.

Back Standing

Effects & Uses

Base is lengthened in (for'd) Sagittal direction. - Mostly used in ex. - some raise - double for.

Stude Handers - Held in active work
rolling - Stude Lact. This morning m.
B. and D. on rollers.

Crook Hill Landing

flex. - hip to thigh & trunk
 14 1/2 in. distance fixed.
 Muscles working - muscles not working steadily your back.
 Flexion of hip - 15° concentrically then

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statically.

Abdominal M - Static

Back M - Body erect.

or you'll go ^{hip} (Supporting side) ^{supporting} ^{leg work} ^{studies} ^{pos.}

Uses & Effects - 1. Ex & devel. of all working M.
2. Used as balance ex. 3. If ribs fix - effects ^{respiration.}

Half Standing

Support standing not mus. work.

Step -

Leg & step on stool.

place heel on stool

everything on back of leg.

Full out Standing - known as lunge position - back knee str. Used to treat

Scoliosis - treat patient to use mus. on side of convexity. ^{muscle work} - work by ^{extensors} hip leg & knee work again gravity - abductors of hip & take weight more on one leg

Ranges or Pairs of Muscle Work.

Mus. may 3 make 2 work ^{to post} its full range - fully stretched ^{post.} of fullest contraction. In ^{inner} range

^{contracted to point} ^{fully contracted} ^{in all M.}

Middle Range - ^{from midpt. to fullest extension.}

When treating weak muscles don't want 2 over. stretch it work in mid.

port. If want 2 lengthen M. use 2 in outer range

Recliner - Simple piece of app consisting of rigid bar by means of which 524 force is applied to overcome certain resist.

pt. at which lever moves - fulcrum.
 In h. body this is joint where mov. occurs.
 Force or effort is indicated at pt in
 which the power producing mov. is applied.
 In body this is pt. of attaching working m.
 of the ^{moving} part. To the Resist. is weight
 of body lifted. This is centre of gravity of
 moving part.

Levers - 3 classes or order.

I P — F — W
 Δ

II P — W — F
 Δ

III W — P — F
 Δ

The longer the lever arm - distance
 from fulcrum to power - the easier is
 the movement - or less effort needs to
 be exerted - Biceps has more power
 than supinator.

The longer the wt. lever arm - i.e. dist.
 from fulcrum to wt. - the more difficult
 the mov. or greater effort needs to be exerted.

Axes & Planes -

Mov. may take place around 3
 diff. axis in body - ex -

1. A frontal axis - i.e. - one round an
 imaginary line in the direction of forehead.

2. A sagittal - i.e. - round a line an arrow
 would follow when shot (thus forehead at 1)

3. Longitudinal axis - along a line
 thro' body from head to foot - this may also
 be called vertical.

Moov. may also take place on 3 diff planes -

1. Frontal plane - when a part of body moves on a flat surface with forehead

2. Sagittal plane - when part moves on a flat surface with sagittal suture of head

3. Transverse - when part moves on a flat surface - with a + section of body.

When body is in upright position. This plane may be called horizontal.

Trunk bending skew. or fwd - trunk is moved on a sagittal plane - round a frontal axis.

Trunk turning moved on a transverse or horizontal plane round a longitudinal or vertical axis.

Toe Tail Butt Standing

Range position. Same as last but
it is plantar flexed. When used in
treatment of scoliosis back ft. may be
crossed over - To tilt pelvis which
give more work & m. on 1 side of
lumbar region & more stretching of m.
on other side of back.

Muscle work - Same m. as previous work
except plantar flexors of back ft. instead of
dorsal flexors. Hip support & hip lean. S.T.
Patient stands in walk standing with
support. This is used for trunk side
bending.

High Support or leg lean S.T. Patient
standing in front of support which is
about 1/2 way at hips & knees. Used to
prevent patient from falling ft. Sometimes
used for ex of ab. plane arm forward.
Breathing with it.

Facial Support Standing - arm support
for back arching.

By changing pos. of arms being standing
- Hands on hips - fingers str. & to ft. & wrist
bent down. Elbow - out, then sideways &
shoulders slightly raised.

Hand Standing - fingers on shoulders,
elbows tucked in.

Inter rotators of shoulder & supinators
of a. & adductors of scapula. Used in
some trunk mov. & for starting some arm
mov. - bending & stretching.

Neck Head Stand - Arms raised

elbows & outwardly rotated & fingers
placed around neck. (Holding chin (B.W.))


Muscle work - Extensors & adductors of fingers
Flexors of wrists & elbows
Adductors & outer rotators of shoulders
Upward rotators of scap.
Upper back & ant. & post. neck m.


Effects & Uses -

Improves post. of head & back & widens
thorax (lifts ribs) Used in treatment of
kyphosis.

Head Rest

Forehead Rest Standing - post. part of fingers
on forehead.


Yard Standing - arms sideways - raise -
level of shoulder. 

Box Bend St. - flexion of elbow at chest.
scap. back. 

Heave Standing - 



Head St. - arms forward 

Sheta St. 

Stretch - or talk - arms rotating out from shoulders 

Crouch St. - arm at rt. L's. Over boom

$\frac{1}{2}$ wing - $\frac{1}{2}$ head - one sided  

$\frac{1}{2}$ bend - $\frac{1}{2}$ Stet -  

Scap - positions - each
sketch
low.

$\frac{1}{2}$ gr. $\frac{1}{2}$ talk.

Revised said by chg. post of T.

Stp. 5. - sd. inclined fwd. from legs
Plantar fla. of ank. jt. Upper part
of 3. strai.

Th. Sup. ST. - Broom or bar 2 sup. ths.

Relaxed Stp. ST. - bd. fwd. of spine. R. hg.
loosely & hips inclined bkwd.

Relax. High Sup. ST. - Combination.

A. Lean ST. - B. crosses H. in fit & leans
on stable bar.

Arch ST. - lower str. arch.

Tail ST. - full shw. from ank joint

Side Bend ST. - 2 fl. of T.

Back Lean ST. - P. sh. sup. again. well
fwd & hips slight fla.

Lean ST. - 1

Front fall - 2

Side hg. - on 1 H + 1 L + skirted there ^(taken from) _{front}

Positions derived from kneeling position.

Str. In - An. 4 2 1' apart. Ank. Por D.
fls according & desired result.

H. Ten - B. tens. on 1. An other bent in fit.

An. with - B. Ten. & then sit on kb. An. either? or D.R.

By chg. post. of T.

S.P. An. -

STP. An. Sit - same as previous but as now. in kno.

Exon. In. - 1' animal.

ST. Sit - On stool with 1' apart + knees.

Close Sit - plain.

Wide Sit - horse, back.

Crk. Sit - 2.

Cross-legged Sit.